

MATERIAL SAFETY DATA SHEET**Aluminium Sulphate****Section 01 -Product And Company Information**

Product Identifier Aluminium Sulphate, granular

Product Use Coagulating agent in water treatment and pulp and paper, production of aluminum chemicals, general purpose food additive, fire extinguisher compounds, soaps, greases, drugs and cosmetics.

Supplier Name..... ClearTech Industries Inc.
1500 Quebec Avenue
Saskatoon, SK. Canada
S7K 1V7

Prepared By..... ClearTech Industries Inc. Technical Department
Phone: 1 (800) 387-7503

Preparation Date..... February 14, 2013

24-Hour Emergency Phone..... 1 (800) 387-7503

**Section 02 - Composition / Information on Ingredients**

Hazardous Ingredients..... Aluminium Sulphate Anhydrous 57-60% (anhydrous)

CAS Number.....Aluminium Sulphate Anhydrous 10043-01-3

Synonym (s).....Dry alum, papermaker's alum, dialuminum trisulphate, aluminum sulphate anhydrous, aluminum sulphate octadecahydrate



Section 03 - Hazard Identification

- Inhalation**..... Dust or mist inhalation may irritate nose, throat, and lungs. Product hydrolyzes in lungs to form sulphuric acid.
- Skin Contact / Absorption**..... May cause skin irritation, especially under repeated or prolonged contact, or when moisture is present. May cause pain and severe burns to skin and brownish or yellow stains. May cause redness, drying, and cracking of skin.
- Eye Contact**..... May irritate or burn eyes. Possible corneal damage.
- Ingestion**..... May irritate the gastrointestinal tract and cause nausea, vomiting, and purging. Acute exposure can cause loss of coordination, muscle spasms, and kidney effects.
- Exposure Limits**..... OEL/TWA: 2mg/m3

Section 04 - First Aid Measures

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
- Eye Contact**..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
- Ingestion**..... Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomitus. Rinse mouth thoroughly with water. Give 1-2 glasses of water to the victim to drink. If vomiting occurs naturally, rinse the mouth out again and give another 1-2 glasses of water. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.
- Additional Information**..... Advice to physician: treat symptomatically.

Section 05 - Fire Fighting Measures

- Conditions of Flammability**..... Non-flammable



- Means of Extinction**..... Product does not burn. Where fire is involved, use any fire fighting agent appropriate for surrounding material; use water spray to cool fire-exposed surfaces.

- Flash Point**..... Not applicable

- Auto-ignition Temperature**..... Not applicable

- Upper Flammable Limit** Not applicable

- Lower Flammable Limit**..... Not applicable

- Hazardous Combustible Products**... At above 760°C or heated in open flame, sulphur oxide (toxic, corrosive, oxidizer), sulphur trioxide (toxic,corrosive, flammable) and aluminum oxide are released. The remaining residue is caustic.

- Special Fire Fighting Procedures**..... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

- Explosion Hazards**..... None

Section 06 - Accidental Release Measures

- Leak / Spill**..... Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Spray residue with plenty of water. Prevent material from entering sewers. Collect liquid and/or residue and dispose of in accordance with applicable regulations.

- Deactivating Materials**..... Soda ash, lime or limestone. Note that adequate ventilation is required if soda ash or limestone is used because of possible carbon dioxide gas formation.

Section 07 - Handling and Storage

- Handling Procedures**..... Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

- Storage Requirements**..... Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials.

Section 08 - Personal Protection and Exposure Controls

Protective Equipment

- Eyes**..... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
- Respiratory**..... For dusty conditions wear a NIOSH/MSHA-approved dust or mist respirator. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.
- Gloves**..... Impervious gloves of chemically resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
- Clothing**..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
- Footwear**..... Impervious boots of chemically resistant material should be worn.

Engineering Controls

- Ventilation Requirements**..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems.
- Other**..... Emergency shower and eyewash should be in close proximity.

Section 09 - Physical and Chemical Properties

- Physical State**..... Solid
- Odor and Appearance**..... White to creamy white odourless granules or powder
- Odor Threshold**..... Non applicable
- Specific Gravity (Water=1)**..... 1.61
- Vapor Pressure (mm Hg, 20C)**..... Not applicable
- Vapor Density (Air=1)**..... Not applicable
- Evaporation Rate**..... Not applicable



Boiling Point..... Not applicable

Freeze/Melting Point..... Not applicable

pH..... 3.5 (1% solution)

Water/Oil Distribution Coefficient.... Not applicable

Bulk Density..... 63-71 lbs/ft³ (ground), 38-45 lbs/ft³ (powdered)

% Volatiles by Volume..... Not available

Solubility in Water..... 50% w/w at 0°C

Molecular Formula..... Al₂(SO₄)₃ • 14H₂O

Molecular Weight..... 594

Section 10 - Stability and Reactivity

Stability..... Stable under normal conditions. Avoid temperatures above 760°C as this can yield toxic and corrosive gases.

Incompatibility..... Avoid moist air and strong bases. Incompatible with alkalies and water reactive materials such as oleum, which causes exothermic reactions.

Hazardous Products of Decomposition.. In contact with moist air and strong bases, this product hydrolyzes readily to form acidic salts. Contact with alkalies and water-reactive materials causes exothermic reactions. May corrode ferrous metals and mild steel in presence of moisture.

Polymerization..... Will not occur.

Section 11 - Toxicological Information

Irritancy..... Moderate irritant

Sensitization..... Not available

Chronic/Acute Effects..... This product has been shown to cause liver, kidney, and nervous system toxicity when tested with laboratory animals. Repeated ingestion may cause phosphate deficiency, which can weaken bones.

Synergistic Materials..... Not available



Animal Toxicity Data..... LD₅₀(oral,mouse): 6207mg/kg
LD₅₀(oral,rat): 1930mg/kg
Human fatal dose recorded at 30 g.

Carcinogenicity..... There are no known carcinogenic chemicals in this product.

Reproductive Toxicity..... Not available

Teratogenicity..... Not available

Mutagenicity..... Not available

Section 12 - Ecological Information

Fish Toxicity..... LC₅₀(Goldfish, 96 hr): 100mg/L
LC₅₀(Mosquitofish, 96 hr): 37mg/L
LC₅₀(Largemouth bass, 96 hr): 250mg/L
EC₅₀(Water Flea, 15 min): 136mg/L

Biodegradability..... Not available

Environmental Effects..... May be harmful to aquatic life. Toxicity is primarily associated with acidic pH.

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transport Information

TDG Classification

Class..... 9(only regulated for TDG if intended for disposal)

Group..... III(only regulated for TDG if intended for disposal)

PIN Number..... UN 3077(only regulated for TDG if intended for disposal)

Other..... Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.



PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 16 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 - Regulatory Information

WHMIS Classification.....D2

Revision Date.....February 4, 2014

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / MSDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Material Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service or technical service department.



ClearTech Industries Inc. - Locations

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Location	Address	Postal Code	Phone Number	Fax Number
Richmond, B.C.	12431 Horseshoe Way	V7A 4X6	1 (800) 287-7503	1 (888) 281-8109
Port Coquitlam, B.C.	2023 Kingsway Ave	V3C 1S9	1 (800) 287-7503	1 (888) 281-8109
Calgary, AB.	5516E - 40 th St. S.E.	T2C 2A1	1 (800) 287-7503	1 (888) 281-8109
Edmonton, AB.	11750 - 180 th Street	T5S 1N7	1 (800) 287-7503	1 (888) 281-8109
Saskatoon, SK.	19 Peters Ave, North Corman Park	S7K 1V7	1 (800) 287-7503	1 (888) 281-8109
Regina, SK.	555 Henderson Drive	S42 5X2	1 (800) 287-7503	1 (888) 281-8109
Winnipeg, MB.	340 Saulteaux Crescent	R3J 3T2	1 (800) 287-7503	1 (888) 281-8109
Mississauga, ON.	7480 Bath Road	L4T 1L2	1 (800) 287-7503	1 (888) 281-8109

24 Hour Emergency Number - All Locations – 1 (800) 387-7503